What is claimed is:

1. A method for protecting cognitive function in a mammal comprising administering to the mammal a morphogen or nucleic acid encoding the morphogen.

2. A method for reducing memory dysfunction in a mammal, the method comprising the step of administering to the mammal a morphogen or a nucleic acid encoding the morphogen.

3. A method for treating dementia in a mammal, comprising the step of administering to the mammal a morphogen or a nucleic acid encoding the morphogen.

4. A method for treating a symptom associated with hippocampal tissue damage in a mammal, comprising the step of administering to the mammal a morphogen or a nucleic acid encoding the morphogen.

5. The method of claim 1, 2, 3 or 4 wherein said mammal is afflicted with or at risk of brain tissue damage associated with mechanical or chemical trauma, oxygen deprivation, glucose deprivation, a neurotoxin, a neurodegenerative disorder or dementia.

6. The method of claim 5 wherein said tissue damage results from ischemia.

7. The method of claim 1,2, 3 or 4 wherein said mammal is a human.

8. The method of claim 6 wherein said human is at risk of or is afflicted with arterial occlusion cardiac arrest or stroke.

9. The method of claim 1, 2, 3 or 4 wherein said mammal is afflicted with or at risk of amnesia.

10. The method of claim 1, 2, 3 or 4 which said mammal is afflicted with or is at risk of Alzheimer's Disease, Pick Disease, Parkinson's Disease, amylotrophic lateral sclerosis,

Lewis-body disease, dementia, pugilista, cerebral atrophy, senility, malnutrition, glucose metabolism disorder or anorexia.

11. The method of claim 1, 2, 3 or 4 wherein said morphogenic protein is administered intraventricularly.

12. The method of claim 12 wherein morphogen is administered intravenously.

13. The method of claim 12 wherein said morphogen is administered intracisternally.

14. The method of claim 1,2, 3 or 4 wherein said morphogen stimulates neurite growth.

15. The method of claim 1, 2, 3 or 4 wherein said morphogen has an amino acid sequence selected from the group consisting of:

a) having at least 70% homology with the C-terminal seven- cysteine skeleton of human OP-1, residues 330-431 of Seq. ID No. 2;

b) having greater than 60% amino acid sequence identity with said C-terminal seven cysteine skeleton of human OP-1;

c) defined by Generic Sequence 7, Seq. ID No. 4;

d) defined by Generic Sequence 8, Seq. ID No. 5;

e) defined by Generic Sequence 9, Seq. ID No. 6;

f) defined by Generic Sequence 10, Seq. ID No. 7; and

g) defined by OPX, Seq. ID No. 3,

wherein said morphogen stimulates production of an N-CAM or L1 isoform by an NG108-15 cell in vitro.

16. The method of claim 15 wherein said morphogen is OP-1.

17. The method of claim 15 wherein said morphogen is any one of OP2, OP3, BMP2; BMP3; BMP4; BMP5; BMP6; BMP9; BMP-10, BMP-11, BMP-12, BMP-15, BMP-3b, DPP; Vg1; Vgr; 60A protein; GDF-1; GDF-3, GDF-5, GDF-6, GDF-7, GDF-8, GDF-9, GDF-10, GDF-11; and morphogenically active amino acid sequence variants thereof.

18. The method of claim 15 wherein said morphogen is noncovalently complexed with at least one morphogen pro domain.

19. A composition for protecting cognitive function and/or reducing cognitive dysfunction in a mammal, the composition comprising a morphogen in an amount sufficient to protect cognitive function and/or reduce cognitive dysfunction in said mammal.

20. The composition of claim 19 wherein said morphogen is dispersed in an aqueous solution.

21. The composition of claim 19 wherein said morphogen is disposed in a biodegradable, biocompatible matrix or binding agent.

22. The composition f claim 17 wherein said morphogen is disposed in a biocompatible microsphere.

23. A composition for protecting cognitive function and/or reducing cognitive dysfunction in a mammal, the composition comprising cultured cells competent to express a morphogen in an amount sufficient to protect cognitive function and/or reduce cognitive dysfunction in said mammal.

24. The composition of claim 23 wherein said cells are disposed in a porous, biocompatible material.

25. A composition for protecting cognitive function and/or reducing cognitive dysfunction in a mammal, the composition comprising a recombinant nucleic acid comprising a DNA sequence encoding a morphogen and a promoter in operative association therewith, in an

amount sufficient to protect cognitive function and/or reduce cognitive dysfunction in said mammal.

26. A kit for protecting cognitive function and/or reducing cognitive dysfunction in a mammal, the kit comprising:

a) cells competent to express morphogen in an amount sufficient to protect cognitive function or to reduce cognitive dysfunction in a mammal, and

b) a receptacle for said cells, said receptacle comprising a biocompatible, porous, sealable membrane suitable for implanting in said mammal.